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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,437	04/16/2004	Shinsuke Matsuno	252020US2SRD	8012
22850 7590 09/08/2008 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER MAPLES, JOHN S				
ART UNIT 1795		PAPER NUMBER		
NOTIFICATION DATE 09/08/2008		DELIVERY MODE ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/825,437

Applicant(s)

MATSUNO ET AL.

Examiner

John S. Maples

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1795

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/CIS-100)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date 6/19/2008

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1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 4 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. (New Rejection)

Each of claims 4 and 5 comprise subject matter therein that does not further limit the claimed subject matter of the claims on which these respective claims depend.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-5, 7-11 are rejected under 35 U.S.C. 102(b) as being anticipated by JP-2001-093524. ('524)

Reference is made to the machine translation of '524 and in particular paragraphs 8, Tables 1-3, paragraphs 37, 45 for the teaching of a CeNiSi_2 type crystal structure for a negative electrode in a non-aqueous secondary battery that includes a positive electrode. It is noted that paragraph 8 of '524 provides for the specific elements set forth in claims 4, 6 and 7 and the elements Ca, Sr, Ba, Y, La, Si, Ge, Sb listed therein each have the atomic radius required by claim 6. The claimed lattice constant is inherent in the teachings of '524 because with the constant between 4 and 5

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Angstroms, the lithium can be placed within the crystal structure and the crystal structure will be of the CeNiSi₂ type. In addition, the negative electrode of '524 meets the claimed formula of claim 10 as evidenced by paragraphs 37 and 45 of '524 that teach various methods of making the negative electrode that would result in the electrode meeting the claimed formula.

Applicant's arguments have all been considered but are deemed persuasive. Applicant argues that the crystal alloy in '524 is made by a different method than that by applicant. This may be true, however it is to be noted that applicant has not included or recited the argued method of making steps in the currently claimed subject matter.

Applicant has furnished the article to Zhuang et al. to support the position that the currently claimed crystal alloy is made by a different method than that of '524. Applicant further states in the last full paragraph on page 8 of the 19 June 2008 response that Zhuang et al. does teach a CeNiSi₂-type crystal structure. But it is to be noted that Zhuang et al. produces this crystal structure at a cooling rate of 0.15K/min., which rate is well out of the cooling range of applicant of 10¹ to 10⁴ K/sec. Thus the steps of Zhuang et al. are different than applicant's, however, the same crystal structure is produced. Thus, even though the method steps of '524 may be different than that described by applicant, a CeNiSi₂ type crystal alloy for a negative electrode is produced by '524.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-5, 7-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhuang et al. in view of '524. (New Rejection)

Reference is made to the entire four page article to Zhuang et al. for the teachings of the claimed CeNiSi_2 -type crystal structure for a negative electrode. Table 2 in Zhuang et al. discloses $\text{La}_3\text{Ni}_2\text{Sn}_6$ which is a CeNiSi_2 -type crystal structure, which compound includes the claimed elements, thus meeting the claimed atomic radius. The recited compounds in the Zhuang et al. are used in a metal hydride battery-see column 1 on page 223. As set forth in Table 2 of Zhuang et al., the $\text{La}_3\text{Ni}_2\text{Sn}_6$ compound comprises a lattice constant of 4.5 angstroms, thus meeting the claimed lattice constant. The Experimental section on pages 223-224 for the production of the above compound in Zhuang et al. would result in the same having the properties as set forth in claim 10.

8. Claims 2, 3 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over '524.

It could be argued that '524 does not specifically teach the claimed lattice constant of claims 2 or 3 nor does this reference set forth a negative electrode that satisfies the formula in claim 10. It would have been obvious to one of ordinary skill in this art at the time the invention was made to have formed the negative electrode in '524 of the lattice constant between 4 and 5 Angstroms so that lithium could be placed within the negative electrode. The recitation of the negative electrode satisfying the formula in claim 10 would also have been obvious because the same results when routine manufacturing of the negative electrode is conducted according to well known prior art methods.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John S. Maples whose telephone number is 571-272-1287. The examiner can normally be reached on Monday-Friday, 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John S. Maples/

John S. Maples
Primary Examiner
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JSM/8-29-2008